



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR 6—CHART INFORMATION

SECTOR 6

SOUTHWEST COAST OF AUSTRALIA—CAPE LEEUWIN TO CAPE ADIEU

Plan.—This sector describes the SW coast of Australia from Cape Leeuwin to Cape Adieu, about 900 miles E. The port of Albany and other facilities are included in their respective positions. The arrangement is from W to E, including the offshore islands and dangers.

General Remarks

6.1 The coast of Australia from Cape Leeuwin E to Cape Adieu presents a varied front, from the mountains of the W to the low swampy saltmarsh of W South Australia. In the SW part of the state of Western Australia, the Darling Range, with heights of less than 610m, parallels the W coast for about 300 miles N from the vicinity of D'Entrecasteaux Point. The highest peak of the Sterling Range lies near Albany and is 1,109m high.

The country descends gradually from the mountains toward the E part of the state, which is mainly tableland, where it gives way to the swamps and marshland of SW South Australia.

The ports of Albany and Esperance are the primary ports of importance described in this sector.

Winds—Weather.—There is a tendency along this coast for winds between S and E to predominate in the summer and for winds between N and W to predominate in winter. However, these seasonal tendencies are greatly complicated by the effects of the local sea breezes. Under suitable conditions, an onshore wind develops during the late forenoon and persists until dusk, blowing perpendicular to the general coastline. Late at night and in the early morning, an offshore wind tends to blow in the opposite direction.

At Cape Leeuwin, SE winds predominate in the summer, especially in the afternoon. In the winter, the winds are variable, mainly between SW and NE through NW. Near Eyre, the sea breeze occurs in the late afternoon and is generally from the SE from November to March. In July, winds from the NW are most frequent, with a high proportion of these winds caused by the land breeze effect.

These coasts are, for the most part, low-lying and therefore are not generally subject to the type of squalls associated with a mountainous coast. However, exceptions can be found, especially near Bald Head and Limestone Head, where gusts of great strength occur when the general wind direction at sea is between S and W.

Visibility is generally good, with exceptionally good visibility quite common; the limiting factors are rain, mist, and fog. Rain associated with depressions, which most frequently occur from May to August, frequently reduces visibility below 2 miles and occasionally below 0.5 mile. On rare occasions, it may drop to 100m in very heavy rains.

Fog seems comparatively rare on the coast and over the adjacent sea. Observations indicate the highest frequencies occur during the winter months. Along the coast, where there are numerous inlets and profuse vegetation, there may be

patchy drifts of shallow mist or fog occurring frequently during the early morning hours.

Tides—Currents.—The current setting E from Cape Leeuwin along the S coast of Australia appears to be influenced principally by the prevailing winds. Since the winds show considerable variability, the currents, too, must show a similar variability. The currents in the vicinity of Cape Leeuwin set predominantly SE from April to November; the currents are more variable from December to March. In all months, however, there is a moderate possibility of onshore sets, with rates of 2 knots in this area. Some vessels have experienced constant N and NE currents, at rates of 1 to 1.5 knots, while others have been set to the E but little to the N as they approach the SW coast of Australia.

In the area covered by this sector, the prevailing winds from between NW and S arrive after a long fetch over uninterrupted ocean. These winds are often strong and persistent, with resulting rough seas and spells of moderate to heavy swells. Rough seas may persist for several days, particularly from June to September. The maximum disturbances occur at the frontal troughs, with the severity increasing from N to S. The normal rate of movement of the high and low pressures is such that an eastbound vessel may experience rough seas from Cape Leeuwin to Gabo Island, at the SE extremity of Australia, while a westbound vessel would pass through rough and smooth seas at comparatively short intervals.

Cape Leeuwin to King George Sound

6.2 Flinders Bay (34° 20'S., 115° 12'E.) is located between Matthew Point, 1 mile ENE of Cape Leeuwin, and Ledge Point, 5 miles farther ENE. The W shore is rocky and backed by a ridge from 30 to 45m high. The N shore is comparatively low and sandy, backed by hills covered with dense brush and attains a height of 40m. Barrack Point, 8m high, is located on the W side of the bay 1.5 miles NNE of Matthew Point.

Cole Rock, with a least depth of 4m, lies 0.4 mile SE of Barrack Point, and a rocky patch, consisting of two rocks with a depth of 5.5m, lie 1.25 miles NE of the same point.

Bessie Reef, with a least depth of less than 1.8m near its E end, lies with its shallowest depth 2 miles SE of Ledge Point; the depths increase rapidly to 16.5m S of the reef, which seldom breaks.

A similar reef lies between Bessie Reef and Ledge Point.

Augusta (34° 20'S., 115° 10'E.), a small township on the W bank of Blackwood River, lies close N of Barrack Point. Blackwood River discharges into the head of Flinders Bay 1.25 miles N of Augusta, and the coast is fringed by reefs and shoal patches extending up to 0.5 mile offshore. The bar across the mouth of the river is about 1m in depth, except during the winter months or with heavy rains when there are depths of 1.8 to 2.1m; boats should not attempt to cross the bar without local knowledge.

Anchorage.—Safe anchorage can be obtained in the NW part of Flinders Bay from October to May.

6.3 From Ledge Point for 6 miles E, the coast continues low and sandy, with hills behind ranging from 45 to 61m high, and covered with dense brush. From there to White Point, 7.5 miles farther SE, the land becomes higher with several patches of sand on their slopes. White Point is named from a long white patch of sand at its extremity. Reefs, some of which dry, extend up to 0.5 mile seaward from White Point.

Cape Beaufort (34° 25'S., 115° 32'E.), 43m high, 4.5 miles SE of White Point, with Black Point close W, is composed of dark basaltic rock, which is easily identified as the coast on either side for several miles is sandy. Dickson Peak, a dark conspicuous hill, 142m high, is located 2 miles NW of Cape Beaufort. There is a foul bight on either side of the cape.

From Cape Beaufort, the coast trends in a SE direction for 34 miles to Point D'Entrecasteaux. The Donnelly River and the Warren River discharge 7 and 17 miles, respectively, SE of the cape. The mouth of both rivers is closed, except during winter and after heavy freshets.

Silver Mount, 136m high, is located about midway between the Donnelly River and the Warren River, 1.5 miles inland. The coast, a short distant SE of the Warren River, is composed of dark bushy-topped sand hills, culminating in Callcup Hill, 236m high. From the base of the sand hills, swamps extend to the beach.

The Meerup River, which extends a few miles inland, percolates through the beach 4 miles SSE of the entrance to the Warren River, forming quicksand which can only be crossed by keeping on the edge of the surf. These quicksands occur at the mouth of most of the rivers between Cape Beaufort and Point D'Entrecasteaux.

The high coastal ridge terminates abruptly, about 9.5 miles SE of the Warren River, in a bare sand-topped hill, 246m high; then the coast is low and rocky for a distance of 2.5 miles to Black Head. Doggerup Creek flows through a bare sand patch of moderate height, 1 mile SE of Black Head. From Doggerup Creek, high rocky sandstone cliffs extend about 0.5 mile beyond Point D'Entrecasteaux, but a small break about 1.5 miles N of the point is low and grassy.

From Cape Beaufort to Point D'Entrecasteaux, the coast is fronted by heavy breakers; those breakers S of the Warren River break from 0.5 to 0.75 mile from shore.

6.4 Point D'Entrecasteaux (34° 50'S., 116° 00'E.), composed of reddish perpendicular cliffs, 122m high, is one of the most remarkable projections on this part of the coast. Mount Chudalup, a conspicuous granite hill, rises abruptly from a low swamp to a height of 185m, 6 miles NE of the point. This point has been reported to give good radar returns at 23 miles and to be identifiable with charted features at 16 miles. A light is exhibited from a white square tower situated on Point D'Entrecasteaux.

Flat Island, 8m high, with a number of dry rocks around it, lies about 0.5 mile SW of Point D'Entrecasteaux. South West Reefs, consisting of three reefs 0.5 mile apart, lie 2.75 miles S of the same point. The two N reefs are about 0.15 mile in diameter and are nearly awash; the S reef is smaller, with greater depths, and does not break regularly.

Sandy Island, 14m high, lies 2.5 miles SE of Point D'Entrecasteaux; a number of small ledges and submerged rocks extend from it. Several reefs, some of which are awash, lie between the island and the shore, and in heavy weather this locality appears as a mass of breakers.

The coast between Point D'Entrecasteaux and the entrance to the Gardner River, 6 miles E, is fronted by a sandy beach. Low grassy ridges and swamps, with occasional clumps of trees, extend several miles inland behind the beach. Close within the 40m curve, which lies about 5 miles offshore, there are detached rocks, with depths of less than 1.8m.

The Gardner River flows into the sea over a narrow rocky bar; off the bar are several dry ledges and sunken rocks. The river usually flows with great strength, except in very dry seasons, when it may be forded at its mouth.

Between the Gardner River and West Cliff Point, 9 miles ESE, is a small projection fronted by rocks; a conspicuous sand patch is located 1 mile NNW of West Cliff Point.

West Cliff Point (34° 54'S., 116° 17'E.), 43m high, is the W extremity of high precipitous cliffs which form the coast to Broke Inlet, 5 miles ESE, and continue to Clifty Head, 7 miles farther SE. The entrance of Broke Inlet (Brookes Inlet) is generally closed by a broad bar of sand. A rock, on which the sea breaks at times, lies 1 mile WSW of West Cliff Point.

The hills SE of Broke Inlet rise gradually to an elevation of 248m, in a position about 2 miles NW of Clifty Head. The SW extremity of Clifty Head terminates in a narrow cliff, 115m high.

Cow and Calf Rocks (35° 01'S., 116° 13'E.) are two rocks located about 8 miles offshore SSW of West Cliff Point. The W rock, 33m high, has a jagged top whitened by guano. The smaller rock, 12m high, is of dark appearance and has a flattened top. These rocks are steep-to and soundings give no indication of their proximity, but they do afford good radar targets.

Broke Reefs (Brookes Reefs) lie 2 miles SW of the entrance to Broke Inlet; the sea breaks constantly on the shallowest part, which lies 1.75 miles WSW of the entrance. Breakers also lie 4 miles SE of the inlet. The extremity of Point Nuyts, in range with the S edge of Chatham Island, leads S of the reef and breakers and N of Cow and Calf Rocks.

6.5 Chatham Island (35° 02'S., 116° 30'E.), 0.5 mile SSE of Clifty Head, appears brown and bald and has a few scrubby bushes near its 186m summit. The S end of the island rises perpendicularly from the sea and slopes steeply N; when seen from the E or W, it has a wedge-shaped appearance. A rocky islet, 27m high, lies 0.15 mile W of Chatham Island and a rock, awash, lies 1 mile farther W.

A shoal, with a depth of 24m, lies 8 miles SW of Chatham Island.

The coast between Clifty Head and Long Point, a narrow cliffy projection, 43m high, 4.25 miles ESE, forms a bight which has a conspicuous sand patch at its head. A high cliff extends from the sand patch ESE to Long Point; a conspicuous round green hill rises abruptly from a gully on its E side, 1 mile E of Long Point. From the gully the high cliffs continue to a position about 1 mile E of Point Nuyts.



Chatham Island bearing 074° distant 7 miles

Point Nuyts (35° 04'S., 116° 38'E.), which projects SSW from the coast in a position about 3 miles ESE of Long Point, is 144m high, and rises to an elevation of 197m close within the point.

Mount Hopkins, a remarkable mass of granite, is located on a ridge 204m high, which rises abruptly from the coast 2 miles ENE of Point Nuyts. About 1.75 miles farther SE, there is a narrow sandy beach backed by a steep sand cliff which has a dark cliffy head at its S end. Rocky Head, about 24m high, lies 1.5 miles E of the dark head.

Mount Frankland (Caldyanup Peak), Mount Mitchell (Rugged Peak), and Granite Peak (Sugar Loaf Peak), three prominent peaks, each between 308 and 411m high, are located between 13 and 19 miles N of Rocky Head.

6.6 Goose Islet (35° 04'S., 116° 44'E.), 38m high, lies 2 miles S of Rocky Head. Rocks, on which the sea generally breaks, lie 0.2 mile E and W of the islet and a rocky ledge, 1.2m high, on which the sea constantly breaks, lies 0.75 mile WSW of the islet.

Black Rock, 21m high, and Saddle Island, 45m high, lie 3.75 miles WNW and 0.5 mile N, respectively, from Goose Islet. Other dangers, which may best be seen on the chart, are located between Point Nuyts and Rocky Head.

Anchorage, sheltered from NW gales, can be obtained with local knowledge off Rocky Head.

Nornalup Inlet, located on the W side of the bay close E of Rocky Head, has an entrance about 0.1 mile wide between the heads. The fairway of the entrance is shallow, but during the rush of water after heavy rains, depths may reach 3.6m. Heavy swells constantly roll into the bay making it difficult for even boats to enter. The Frankland River and Walpole River flow into the inlet.

Sand hills, 45 to 60m high, extend 3 miles E from Nornalup Inlet, then rise to a rocky bluff 98m high, about 1 mile farther SE. A rocky ledge extends 0.2 mile seaward from the bluff.

A rock, which breaks in a heavy swell, lies about 0.75 mile offshore in a position 2.5 miles E of Rocky Head.

A small green headland, 45m high, projects from the coast 5 miles ESE of Rocky Head; the land within the headland rises abruptly to a height of 137m. A stream flows through a high sand patch into a bight on the W side of the green headland.

Rame Head (35° 03'S., 116° 52'E.), 125m high, lies 0.75 mile E of the small green headland; Point Irwin lies 3 miles farther E. The coastal waters from the small green headland to Point Irwin are foul, with above and below-water rocks extending up to 1 mile offshore SE and SW of Rame Head.

6.7 Point Irwin (35° 04'S., 116° 55'E.), 52m high, is the SW extremity of Foul Bay. A prominent green peak rises abruptly to an elevation of 52m, about 0.75 mile NW of the E

entrance point of Foul Bay. The bay, about 5 miles in width between the entrance points, is encumbered with reefs and submerged rocks, and in bad weather, the entire bay is a mass of breakers.

Irwin Inlet opens into the head of Foul Bay. The entrance of the inlet is seldom closed, but it is too shallow for a boat to enter except after a heavy freshet. There are several villages on the N side of the inlet.

The coast from Foul Bay trends E for 2 miles to a dark headland, 49m high, which has several rocks off its SE extremity.

Boat Harbor lies to the E of the dark headland described above and is safe for boats in moderate weather; landing might be made on a small sandy beach at the head of the harbor. Rocks extend nearly 0.5 mile SE from the N entrance point of Boat Harbor.

From the swampy flats close E of Boat Harbor, the land rises gradually to Hillier Point, 3 miles farther E. An island, 37m high, lies 0.1 mile offshore, 1 mile E of Boat Harbor.

Point Hillier (35° 04'S., 117° 09'E.) is a narrow projection, 134m high, with a cliffy face and a flat top, from which the land rises abruptly to an elevation of 155m. There are times when landing can be made inside the point. A depth of 23m lies 3.5 miles SSW of Point Hillier.

Stanley Islet, whose 49m summit is covered with coarse grass, is located 0.1 mile S of Point Hillier. Foul ground, which breaks in bad weather, lies about 0.75 mile ESE of Stanley Islet.

William Bay lies between Hillier Point and Edward Point about 5 miles ENE. Parry Inlet, whose entrance is generally closed, discharges into the NW part of the bay and on the NE shore of the bay there is a conspicuous sand patch.

6.8 Wilson Head (35° 03'S., 117° 20'E.), located 4 miles E of Edward Point, is a broad, cliffy projection, 122m high. Two small streams flow into the head of the bay that lies between Edward Point and Wilson Head.

Bennett Range is an irregular and broken range that extends N from Wilson Head. Mount Shadforth, the S peak, 319m high, is located 3 miles N of Wilson Head and Mount Lindesay, 459m high and prominent from seaward, lies 10 miles farther N. A ridge extends some miles E from Mount Lindesay.

Ratcliffe Bay is located close NE of Wilson Head. A heavy swell usually sets into the bay.

Wilson Inlet opens into Ratcliffe Bay, 1 mile N of Wilson Head; its 0.5 mile wide entrance is generally blocked by sand. A number of streams discharge into the inlet.

Two sand drifts are located a short distance E of Wilson Inlet; the coast then rises steeply to an elevation of about 155m

and presents a cliff front that continues to Knapp Head, 7 miles ESE. A heavy surf always breaks on this coast.

A submerged rock lies 0.35 mile offshore, 1.5 miles NW of Knapp Head.

Knapp Head (35° 05'S., 117° 29'E.), 122m high, is conspicuous and has grassy ridges rising to 183m high, 0.75 mile inland. The head has been reported to give good radar returns up to 17 miles.

West Cape Howe, 6.5 miles SE of Knapp Head, is the W of three bluff headlands, each 91m high, located at the S end of a promontory. Torbay Head, the farthest E of the three headlands, has a round scrubby top.

The coast trends N from Torbay Head to Forsyth Bluff, a distance of about 3 miles, then in a general NNE direction 3 miles, to the entrance of Torbay Inlet.

To the E of Torbay Inlet, for about 1.25 miles, the land rises to a height of 143m; then the coast trends 8.5 miles SE to Sharp Point.

Torbay Bay lies between Torbay Head and the coast N of Stony Island, and includes Port Harding, Port Hughes, and Torbay Inlet. There are several islands in the bay which may best be seen on the chart.

Anchorage has been obtained in 32m about 0.6 mile NW of a rocky bluff, 0.75 mile N of Torbay Head. Shelter for vessels with local knowledge may be found in Port Harding, close N of Forsyth Bluff and in Port Hughes, 1 mile ESE of Torbay Inlet.

6.9 Sharp Point (35° 07'S., 117° 52'E.) rises to a height of 165m; the cliffs at the point and for 0.5 mile E are precipitous. Grove Hill, 212m high, stands 0.5 mile N of Sharp Point.

Cave Point (35° 08'S., 117° 54'E.), 2 miles ESE of Sharp Point, is faced with low, dark cliffs. A black rock, 15m high, lies close S of Black Head, which is located 1 mile E of Cave Point.

Peak Head, 150m high, is a bluff, rocky projection 1.25 miles ESE of Black Head. Stony Hill, a prominent mass of granite boulders 224m high, rise abruptly 1 mile within Peak Head. A small dry rock lies close off Peak Head.

Between Peak Head and Black Head, a bight is formed, which has a narrow rocky cove in its N part. Landing may also be made in Newles Inlet, 0.25 mile NW, which provides good shelter for small craft in all but S winds.

An intermittent stream of water flows out of a precipitous ravine on the N side of a bluff, 1.5 miles NE of Peak Head. A little farther N is a dark, round, granite hill, 140m high. Isthmus Bay is formed between the bluff and Bald Head, 2.5 miles E.

Bald Head (35° 06'S., 118° 01'E.) is the E extremity of Flinders Peninsula, which forms the S side of King George Sound. The head, 122m high, with a smooth round surface, almost destitute of vegetation, has a white sterile appearance when seen from the E. Flinders Peninsula reaches a height of 234m, and Limestone Head, on the N side of the peninsula, is 176m high. Northumberland Rock, 4m high, lies 0.1 mile S of Bald Head.

Caution.—Vessels rounding Bald Head should be prepared for heavy rolls.

6.10 Off-lying islands and dangers.—Stony Island (35° 06'S., 117° 47'E.), a dome-shaped granite island, 45m high,

with two or three prominent boulders on its summit, lies 7.5 miles ENE of Torbay Head, and appears white with the sun shining on it. It is steep-to and may be approached to a distance of 0.1 mile.

Passage Reefs (35° 08'S., 117° 49'E.) are three reefs which lie between 1.5 and 3 miles SE of Stony Island. The N reef has a least depth of 12.7m, the SW reef has a least depth of 5.9m, and the SE reef has a least depth of 9.1m. There is deep water around each of the reefs and the sea occasionally breaks on them.

Green Islands, two in number about 0.1 mile apart, lie about 0.5 mile SSW of Sharp Point. The islands are composed of dark granite and have a low grass covering. A 6m high black ledge lies 0.1 mile W of the W islet.

North Rock, with a least depth of 16m, lies 0.5 mile SW of Green Islands.

Eclipse Island (35° 11'S., 117° 53'E.), 109m high, lies about 3.5 miles SSW of Cave Point. The island is the largest of a group of islets, rocks, and dangers that lie in its immediate vicinity, and which extend from Eclipse Island in a NW direction about 6.25 miles to Stony Island. These dangers may best be seen on the chart. Eclipse Island Light is shown from a white lantern on a round concrete tower.

An area, whose limits are shown on a chart, in which anchorage is prohibited, lies between the N and E sides of Eclipse Island and the coast between Cave Point and Black Head. A shoal, with a least depth of 10m, lies 1.5 miles NE of the NE end of Eclipse Island; another shoal, with a least depth of 25.5m, lies 0.5 mile N of the 10m shoal.

Maude Reef (35° 12'S., 117° 58'E.), which has a depth of less than 2m, lies 4 miles ESE of Eclipse Island Light; the reef seldom breaks.

Vancouver Rock, 5m high, lies 2.5 miles SW of Bald Head. The swell, which usually rolls in from the S and W, breaks violently over this steep-to rock.

At night, vessels making for King George Sound should maintain depths of 82m until a bearing of Breaksea Island Light (see paragraph 6.13) indicates that they have passed Maude Reef.

Caution.—Near Bald Head and Limestone Head, gusts of wind of great strength sometime occur when the general direction of wind at sea is between S and W.

King George Sound

6.11 King George Sound (35° 03'S., 117° 58'E.) is entered between Bald Head and Herald Point, about 5 miles NNE. The sound is the safest and most convenient port along this coast of Australia. There is good anchorage in the sound, and on its W side is Princess Royal Harbor, which is landlocked, and available to ocean-going vessels. The SW part of the sound is known as Frenchman Bay and the NW part is known as Middleton Bay; Oyster Harbor lies N of Middleton Bay. The port of Albany lies on the N shore of Princess Royal Harbor.

The SW shore of King George Sound trends in a NW direction from Flinders Peninsula to Vancouver Peninsula, about 3.5 miles distant. The summit of Flinders Peninsula is 234m high, while the hilly land of Vancouver Peninsula rises to a height of 82m in its center. Possession Point is the NE extremity of Vancouver Peninsula.

Caution.—A marine farm lies between Limestone Head and Waterbay Point; the extremities of the fish cages within the area are marked by lighted buoys.

Frenchman Bay (35° 05'S., 117° 57'E.) lies between Flat Rock on the S and Mistaken Island to the North. Flat Rock, 2m high, is located 0.2 mile offshore, 1.75 miles W of Limestone Head. Mistaken Island, 44m high, is located 2 miles NNW of Flat Rock. There are a number of above-water rocks between it and shore.

Seal Island, 32m high, is located 1.5 miles NW of Limestone Head and is steep-to, but has a rocky spit extending about 0.1 mile from its W side; the island lies 1.25 miles E of Frenchman Bay. An 18m patch lies about 0.65 mile NW of the island.

Frenchman Bay provides convenient anchorage over sand and weeds, in a depth of 16m, about 0.35 mile offshore, with Seal Island and the center of Michaelmas Island in line and Flat Rock bearing 131°. Good anchorage can also be found, in all but very strong W or N winds, between Seal Island and the first sandy beach W of Limestone Head, with Limestone Head bearing 073°. A partly submerged pipeline, which is a hazard to navigation, extends about 0.3 mile NNW from a disused whaling station, 0.25 mile SSW of Flat Rock.

6.12 Herald Point (35° 01'S., 118° 02'E.), on the N shore of King George Sound, is covered with grass; the land close NW of the point rises to a height of 69m. The coast is backed by a grassy ridge, which rises to Mount Taylor, at a height of 206m, and then slopes gradually to Ledge Point, 1.25 miles W of Herald Point. The beach between Herald Point and Ledge Point is fronted by sunken rocks lying up to 0.1 mile offshore.

The coast between Ledge Point and Cheyne Head, about 1.75 miles WNW, recedes and forms a sandy cove where small vessels, with local knowledge, can obtain anchorage sheltered by all but SW winds.

From Cheyne Head, the coast trends NW 1.5 miles to the entrance to Oyster Harbor; the land behind the coast rises to a height of 156m and is densely wooded.

Herald Rocks (35° 02'S., 118° 02'E.), with least depths of 4m, lie between 0.3 and 0.5 mile S of Herald Point. Middle Rock, with a least depth of 8.3m, lies 0.25 mile S of the S extremity of Herald Rocks; Mount Pleasant Rock, with a least depth of 5.1m, lies about 0.25 mile farther SSW.

Gull Rock, 10m high, is located 0.35 mile WSW of Ledge Point; there is a small dry rock lying close W. There are depths from 5.3 to 9.1m in the channel between Gull Rock and Ledge Point.

Cheyne Ledge, farther W along the coast about 1 mile WNW of Cheyne Head, is a small rocky ledge, awash at high water, located about 0.1 mile offshore. The entrance to Oyster Harbor is obstructed by a bar, with a depth of 3m, in the fairway. The tidal currents run with considerable strength in the entrance and no vessel should attempt to enter it without local knowledge.

The coast between the entrance to Oyster Harbor and Wooding Point, 2 miles SW, is low and forms Middleton Bay. Ellen Cove, near the S end of Middleton Bay, has a jetty, with depths of 1 to 1.4m alongside, which can be used by boats.

Wooding Point (35° 02'S., 117° 55'E.) is the E extremity and King Point is the SE extremity of the headland that forms the N side of Princess Royal Harbor. King Point Light is exhibited from a white framework tower.

A spoil ground lies 0.25 mile N of Wooding Point and Whale Head Rock lies close offshore, 0.15 mile N of King Point.

6.13 Belches Foul Ground (35° 06'S., 118° 03'E.) lies 1.5 miles ENE of Bald Head; it consists of a number of rocky patches. East Shoal, with depths of 11.3m, and West Shoal, with depths of 16.8m, are the shallowest. During S gales, the sea breaks heavily on East Shoal and the whole area of Belches Foul Ground is covered with a dangerous and confused sea.

Breaksea Island (35° 04'S., 118° 03'E.), 3 miles NE of Bald Head, is a rugged mass of rock 103m high, with an islet 20m high, located off its E end. A light is exhibited from a round stone tower on the summit of the Breaksea Island; two ruined dwellings stand at the top of the island E of the light. A detached shoal, with a depth of 16m, lies 0.4 mile ENE of the E end of Breaksea Island. Less water may exist over this shoal.

South Channel lies between Belches Foul Ground and Breaksea Island.

Michaelmas Island (35° 03'S., 118° 03'E.), 152m high, lies 0.75 mile N of Breaksea Island and is covered with grass and stunted trees.

Middle Channel, which separates Breaksea Island from Michaelmas Island, is deep and clear of dangers.

North Channel lies between Michaelmas Island and Herald Point, on the mainland, about 1 mile N. The channel is encumbered with rocks. A wreck, with a depth of 10m, lies in North Channel, close N of the W end of Michaelmas Island. Vessels with a draft of greater than 3m should not use North Channel without a pilot.

Michaelmas Reef (35° 03'S., 118° 01'E.), which has a least depth of 6.3m, consists of several rocky patches that lie from 0.6 to 1.1 miles W of Michaelmas Island.



Entrance to Princess Royal Harbour



Courtesy of Albany Port Authority

Princess Royal Land Backed Wharf

Gio Batta Patch is a detached area of foul ground, with a least depth of 5.5m, lying about 1.75 miles W of Michaelmas Island.

Princess Royal Harbor (35° 03'S., 117° 53'E.), which is entered through a dredged channel that lies between Possession Point on the S and King Point on the N, is shallow over the greater part of its area, especially on its S and W sides. A considerable area has been dredged in the NE part to form the port of Albany, which can accommodate large vessels.

Albany (35° 02'S., 117° 54'E.)

World Port Index No. 54470

6.14 The port of Albany lies within Princess Royal Harbor. The port includes all the waters of King George Sound and Princess Royal Harbor lying W of a line joining the E extremity of Bald Head, Breaksea Island Light, and Herald Point.

Albany is primarily concerned with the import of general merchandise, petroleum products, phosphate, and sulfur. Exports include wool, skins and hides, meat products, wheat, and other cereal grains.

Albany Port Authority Home Page

<http://www.albanyport.com.au>

Winds—Weather.—Prevailing winds are from the W in winter and the E in summer.

Tides—Cur rents.—The tides are often irregular and predominantly diurnal. Springs rise about 0.9m and neaps rise about 0.7m.

Tidal currents are not appreciable in King George Sound, but run with considerable strength in the entrance to Princess Royal Harbor; the flood current sets SW across the entrance and the ebb current sets towards the NE.

Depths—Limitations.— The entrance to Albany is through King George Sound, then via the dredged channel that lies between King Point and Possession Point. The channel is dredged to a depth of 12.2m over a width of 145m. The channel and the turning basin, which is also dredged to a depth of 12.2m, are marked by lighted beacons and indicated by a range. A 230m section of the channel NW of Possession Point has been dredged to a depth of 12.5m.

The Princess Royal Land Backed Wharf fronts the shore from a position about 1 mile W of the entrance. It is 608m in length, with a depth alongside Berth No. 1 and Berth No. 2 of 10.4m and 12.2m alongside Berth No. 3. The berths are numbered from the W; petroleum, container, and ro-ro vessels can be accommodated.

Vessels up to 67,000 dwt, with a maximum length of 220m, a maximum draft of 11.5m, and a maximum beam of 33m, can be accommodated, subject to the Harbor Master's discretion and dependent on the weather and tidal conditions during daylight hours.

Aspect.—The lights that are shown on Breaksea Island and King Point are good landmarks. A directional light, leading NNW from near the pilot boarding position, stands on Emu Point (35° 00'S., 117° 57'E.). Range lights at the head of Princess Royal Harbor lead through the harbor approach to the SE end of the port of Albany. A floodlit memorial is situated near the summit of Mount Clarence, 1.25 miles WNW of King Point; Mount Clarence has a height of 186m. An observation tower, lit at night, stands on Mount Melville, 157m high, about 1.25 miles WNW of Mount Clarence.

Pilotage.—Pilotage for Albany is compulsory. The pilot station is situated near Semaphore Point, about 0.5 mile WSW of King Point. Pilots embark about 3 miles ESE of King Point Light.

Albany is a first port of entry. Radio channels guarded are VHF channels 6, 12, and 16, but there is limited Port Radio Service. Vessels should send an ETA 24 hours and 2 hours in advance.

Anchorage.—Good holding ground lies 1.5 miles E of Possession Point. Anchoring is prohibited in the charted area, about 1 mile E of King Point, having a radius of 0.5 mile.

Directions.—Vessels approaching from the W wishing to use South Channel should steer to pass about 2.75 miles E of Bald Head, until South Channel can be entered, when King Point Light bears 292°. King Point Light is sometimes difficult to make out, but a group of boulders on rising ground behind the light can be used as a reference. Continue on course 292° for the pilot boarding position.

Vessels approaching from the E wishing to use South Channel should steer for Seal Island on a course of 270°, and then change course to 292° when King Point Light is on that bearing, continuing on to the pilot boarding position.

Middle Channel, although seldom used, can be used by vessels approaching from the E. By day, keep the S extremity of Rock Dunder (35° 02'S., 118° 10'E.) astern bearing 077°, steering a course of 257° until King Point Light bears 292°, when course is altered to 292°, continuing on to the pilot boarding position. At night, alter course S after passing the W end of Breaksea Island until King Point Light bears more than 290°, when the vessel will be S of Gio Batta Patch.

King George Sound to Esperance

6.15 Cape Vancouver (35° 02'S., 118° 11'E.) is the S extremity of an islet, 51m high, that lies 7.5 miles E of Herald Point. The coast recedes about 2.25 miles between Herald Point and Cape Vancouver and is backed by a series of hills, of which the most conspicuous are Reservoir Hill, 165m high, 6 miles NNW of Cape Vancouver, and Mount Gardner, 399m high. Mount Gardner is a peaked mass of granite partially covered with grass and poisonous scrub.

Stirling Range lies about 40 miles N of Cape Vancouver and has several conspicuous peaks. The most conspicuous one is Toolbrunup (Castle Peak), 1,018m high, and is located near the center of the range. Bluff Knoll and Ellen Peak, both higher than Toolbrunup, lie near the E end of the range.

False Island and Inner Islet lie close off the coast 1 and 2 miles, respectively, NW of Cape Vancouver. Foul ground lies between the two islands and may best be seen on the chart.

Rock Dunder (35° 02'S., 118° 10'E.), a long, narrow rock 60m high, lies 1.25 miles W of Cape Vancouver. Close E of the rock is a small rock above water; the rest of Rock Dunder is steep-to.

The coast between Cape Vancouver and South Point, about 3.5 miles N, is steep and rocky. Coffin Island (Caffin Island), 45m high, lies 0.1 mile offshore, 2 miles NE of Cape Vancouver. A number of rocks lie up to 0.35 mile S of the island; the outer one is 2.5m high.

Two Peoples Bay, which has not been properly surveyed, lies between South Point and North Point, 2 miles NNE. A ledge of rock extends about 0.1 mile N from South Point and a ledge, on which the sea generally breaks, lies about 0.3 mile NE of this ledge.

6.16 North Point (34° 57'S., 118° 13'E.) is a rough, stony islet, 27m high, with little vegetation on its top; it is connected to the mainland by a ledge of rocks. Immediately behind the

point, the land rises steeply to a height of 195m; a remarkable square granite boulder is situated on the summit.

The coast from North Point to a rocky projection about 2.25 miles NE is a long rock-fringed sandy beach, backed by a ridge of bush-topped sand hillocks. The coast between the rocky projection and Mermaid Point, about 7.5 miles E, is steep and has several rocky indentations.

Mount Manypeaks rises to an elevation of 565m, 4 miles NE of North Point; it falls gradually toward the Waychinicup River, 3.5 miles E.

The Waychinicup River flows into the sea 4 miles W of Mermaid Point. Excellent shelter for small craft with local knowledge can be found within the second bend of the river.

The coastal ridge in the vicinity of Mermaid Point rises to an elevation of 150 to 195m, surmounted by huge granite boulders, and terminates 2 miles NE.

Twin Islets, 2 miles SSW of Mermaid Point, are each 26m high. There are submerged rocks between the islets, and a shallow patch extends 0.25 mile N from the N islet. The sea generally breaks on a rock approximately 1 mile W of Mermaid Point.

Bald Island (34° 55'S., 118° 27'E.), 311m high, is separated from the mainland by a channel 0.75 mile wide. Submerged rocks extend 0.1 mile from its NW side. The sea breaks constantly on a detached ledge, 0.6m high, that lies 0.25 mile S of the island.

Bird Rock, 3.6m high, is located 0.5 mile NE of Bald Island. A small rock lies close W and a similar rock lies close S of Bird Rock.

The coast between Bald Island and Butty Head, about 173 miles ENE, has not been closely surveyed and special caution is necessary when navigating in those areas where no sounding are charted.

6.17 Lookout Point (34° 53'S., 118° 26'E.) lies about 2 miles NE of Mermaid Point. Anchorage, in a depth of 12.8m, sand, may be obtained off a sandy beach about 1.25 miles WNW of Lookout Point, with Mount Manypeaks bearing 260° and Lookout Point in line with the E side of Bald Island, bearing 123°.

The coast from the above anchorage to a point about 10 miles NNE is one continuous sand beach. Warriup Hill lies about 2.5 miles N of the N end of the sandy beach. Warriup Hill is a prominent scrubby mount, 311m high. Green Ridge, from 245 to 309m high, extends W from a position N of Warriup Hill.

Haul-off Rock (34° 42'S., 118° 39'E.), a prominent granite rock, 96m high, lies 1 mile offshore, 8 miles E of Warriup Hill. A ledge of rocks extends off its SW end and a detached ledge lies 0.5 mile SW of the highest part of the rock.

Two small rocks lie close to Ledge Point, 4 miles NE of Haul-off Rock.

Cape Riche, 4 miles farther NE, is a cliffy projection of moderate elevation, with a level appearance.

Cheyne Islet, 34m high, lies 1 mile NW of Cape Riche. Large vessels can anchor midway between the islet and the cape. Smaller vessels can anchor W of the islet and vessels of not more than 3m draft can anchor SW of the islet.

A dangerous reef, reported to have a least depth of 5.5m and a charted depth of 8.5m, is steep-to and lies 4 miles SE of Cape Riche. As the sea has seldom been seen to break on this reef, it is considered to be of small extent.

The coast between Cape Riche and Cape Knob, 23 miles E, forms a large bay, which may be identified by the land on its W side being cliffy and that on the E side consisting of almost bare sandhills.

6.18 Groper Point (34° 30'S., 118° 54'E.), 58m high, is located 9 miles NE of Cape Riche. Close NW of the point, the land rises to form Mount Groper, which has a height of 154m.

Smooth Rocks, located about 11 miles E of Groper Point, consist of three bare rocks. The S rock, the largest of the three, is 51m high. Roe Rock, 3.6m high, lies about 2 miles ESE of Smooth Rocks.

Cape Knob (34° 32'S., 119° 14'E.) is a rugged stony promontory which rises to a height of 220m, in a position about 1.5 miles NNE.

Good anchorage can be found, in a depth of 13m, off a sandy beach close NW of Cape Knob; it has been reported anchorage could be obtained W of the cape.

Dillon Bay is the sandy bight between Cape Knob and Point Henry, about 5.5 miles ENE. Breakers and indications of shoals have been observed in the middle of the bay and it should not be entered without local knowledge.

Black Point (34° 27'S., 119° 25'E.) is the NE extremity of a small promontory which extends E from the coast 1.75 miles NE of Point Henry.

Bremer Bay is located between Black Point and the W extremity of Point Hood, about 4.5 miles NE. Glass Islet lies 0.5 mile offshore, on the W side of the bay, 2.5 miles N of Black Point. It is reported that Bremer Bay appears free from dangers and that anchorage, sheltered from all winds, could be found in it.

6.19 Hood Point (34° 22'S., 119° 33'E.), 112m high, is the SE extremity of a cliffy headland that projects about 4 miles in a SE direction from the general trend of the coast. When seen at a distance from seaward, the headland appears to be an island, as the land connecting it to the mainland is low and sandy. A conspicuous building stands on the N side of Hood Point.

Doubtful Islands, the highest of which is 75m, extend 2.25 miles E from Hood Point. Between the two E and two W islands, there is a channel 1 mile in width that has depths of 37 to 44m and which shoals to 22m, close around the N side of the two inner islands.

Seal Rock, 3m high, and a sunken rock close N of it, lie 1 mile NW of the two W islands of the Doubtful Islands group.

Doubtful Island Bay is formed within Doubtful Islands. The bay affords shelter from winds between S and SW.

There are depths of 13m, about 0.1 mile offshore, 1 mile NW of Hood Point. A submerged rock lies near the shore of the bay, 4 miles NW of Seal Rock.

The land on the W and NW side of the bay is sandy and rocky, and several barren peaked hills rise to considerable heights a short distance inland. The mouths of Gordon Inlet and the Boondadup River are located about 6.5 and 10 miles,

respectively, N of Hood Point. West Mount Barren rises to a height of 372m, in a position about 12 miles NNW of the same point.

Ann Point (34° 10'S., 119° 34'E.) is located about 12.5 miles N of Point Hood; the St. Mary River mouth is close N of Ann Point and the Fitzgerald River flows into the sea in a position close N of Point Charles, which is located about 4.5 miles NE of Ann Point.

Middle Mount Barren, 457m high, is located about 6 miles NE of Point Charles. From Middle Mount Barren, the high rocky coast trends NE for about 19 miles to East Mount Barren, which rises to a height of 299m about 0.5 mile inland.

The Whoogarup Range rises to an elevation of 392m, 13 miles NE of Point Charles.

Red Islet, 43m high, lies near the coast 5 miles ENE of Middle Mount Barren; submerged rocks extend nearly 1 mile SW from the islet. The Hammersley River flows into the sea in a position about 7 miles NE of Red Islet.

Mary Ann Point (33° 57'S., 120° 08'E.) lies 6 miles ESE of East Mount Barren; the intervening coast is low, sandy, and is broken in its W part by the entrance to Culham Inlet. The coast is fronted, in its E part, by foul ground and reefs which extend a considerable distance offshore.

6.20 Mary Ann Haven (Hopetoun) (33° 57'S., 120° 07'E.) (World Port Index No. 54460) lies within the reefs which extend about 1 mile off Mary Ann Point. The haven is exposed to all except offshore winds, but during SW gales, when the seas break heavily on the outer reefs, it is quite smooth within. A light is shown from the breakwater at Mary Ann Haven.

Anchorage may be obtained inside the reefs, in depths of 4.9m, good holding ground, and outside the entrance, in depths of 7m, with No. 1 Beacon and No. 2 Beacon in line.

A directional light leads E of all dangers in the approach to the haven. No. 1 Beacon and No. 2 Beacon, on the W side of the haven, in line bearing 275°, lead through the entrance and to the inner anchorage. Both beacons were reported (1989) to be in disrepair. No. 4 Beacon marks the shoal on the S side of the entrance.

Caution.—Although this coast has not been closely surveyed, there are dangers known to exist between East Mount Barren and Powell Point, 20 miles E of Mary Ann Point. Soundings give no indication of the proximity of the dangers, and many of them, several meters below the surface, are only occasionally discernible in rough weather.

A small sunken rock, on which the sea seldom breaks, lies about 9 miles SSE of East Mount Barren; a similar rock lies about 3 miles farther E. A shoal, with patches over an area of 1.5 miles in a N to S direction, is located about 9 miles SE of Mary Ann Point; the sea breaks heavily on this shoal.

West Islet (34° 05'S., 120° 28'E.) is a low sandy islet, with a smooth and sterile aspect, 19 miles ESE of Mary Ann Point. Black Rock lies 1.5 miles WSW and a reef, depth unknown, lies 1 mile NNE, respectively, of West Islet. Breakers exist 2 miles N and 2.5 miles NW of West Islet. Breakers were reported to extend from the coast nearly out to the islet and it is doubtful whether there is a safe passage between it and the coast.

6.21 Powell Point (33° 56'S., 120° 33'E.), 20 miles E of Mary Ann Point, is the SE extremity of the promontory that forms the S side of Bedford Harbor (Starvation Boat Harbor). North Powell Point is the NE extremity of the promontory and Maintop Hill, 36m high, the highest point of the promontory, lies 0.5 mile W of North Powell Point.

Bedford Harbor affords good shelter during SW winds in an anchorage 0.35 mile N of North Powell Point, in a depth of 7.6m, but there is a 5.2m patch about 0.1 mile N of this anchorage. Inside Rock, with a least depth of 3.6m, lies 0.25 mile NNE of North Powell Point; a rocky shoal, with a least depth of 3m, and which generally breaks, lies 0.5 mile NE of the same point.

Submerged reefs extend 5 or 6 miles E from a position 1 mile NE of North Powell Point; the sea breaks over them in places along their entire length in any but the finest weather.

Shoal Cape (33° 53'S., 121° 07'E.), located about 28 miles E of Powell Point, is composed of sand hills that resemble white cliffs. The Oldfield River discharges into the sea in a position about 9 miles E of North Powell Point; the Margaret River discharges into the sea about 11 miles farther E. The Young River and the Lort River discharge into Stokes Inlet, which is located about 3 miles NW of the cape. An islet, surrounded by foul ground and breakers, lies close off the SE side of Shoal Cape. Depths of 21.9m and 10.9m lie 5.5 and 7 miles, respectively, S of the mouth of the Oldfield River.

6.22 Rocky Islets (34° 04'S., 120° 54'E.), two small islets about 54m high, lie 17 miles SW of Shoal Cape. The islets, which are joined at their S ends by a narrow, rocky, boulder-strewn beach, are surrounded by breakers which appear to extend farthest from the SE side. A rock, which breaks, lies about 1.25 miles E of the islets; a 1.8m patch, which breaks, lies about 3.25 miles SW of the islets. The depths in the area make it appear probable that there are other sunken rocks in the vicinity.

The two islets, and the beach which connects them, form a circular basin in which anchorage may be found by vessels up to 36.6m in length, in depths of about 18m. The entrance is from N and is fairly steep-to on both sides. Good anchorage is afforded in E winds, but in W winds it is hazardous.

Fanny Cove (33° 52'S., 121° 07'E.) is a small rock and reef-encumbered cove that lies close NE of Shoal Cape. No shelter is available in the cove.

Barker Inlet lies 10 miles ENE of Shoal Cape. From the inlet, grassy hills extend about 11 miles E, and are backed by sandy, undulating hills; Butty Head lies 7 miles farther SE.

There is a heavy surf all along the coast between Shoal Cape and Butty Head, 28 miles E. Red Island lies about 11.5 miles E of Shoal Cape and SE of Barker Inlet. Mariners are advised to keep at least 5 miles S of the latitude of Red Island, due to the existence of unexamined shoals.

Butty Head (33° 54'S., 121° 39'E.) is a dark headland covered with stunted scrub that rises from its seaward extremity to a conspicuous conical hill. The shore in the vicinity of the head is very rocky. Bayliss Rock, 2.1m high, lies about 0.7 mile W of Butty Head. The sea always breaks heavily on this rock.

Butty Harbor, 2 miles NE of Butty Head, is only suitable for small coasting vessels; there is good landing at the SW corner of the cove.

Between Butty Head and the rocky point abreast Observatory Island, 6.5 miles SE, the coast is composed of sand and limestone cliffs backed by conspicuous white sandhills. The rocky point attains a height of 92m. From the rocky point, the coast trends ENE for 5.75 miles to Dempster Head, and is divided into three bays by two rugged, rocky projections, which have sandy beaches on either side of them.

Approaches to Esperance

6.23 Esperance Bay (33° 54'S., 121° 58'E.) is contained between the point N of Observatory Island and Cape Le Grand, 17 miles ESE. The town and port of Esperance are situated on the NW shore of the bay.

The N and E shores of Esperance Bay, between the town and the headland which rises to Mount Le Grand, about 13 miles SE, consists of a long stretch of sand broken by Bandy Creek and by Wylie Head, 4.75 miles ENE of Esperance. There is good landing in Wylie Bay, a small bay close N of Wylie Head, but elsewhere there is a constant heavy surf.

There is a small craft harbor, protected by breakwaters, at Bandy Creek.

Cape Le Grand (34° 01'S., 122° 07'E.), 154m high, the SE extremity of Esperance Bay, rises to Mount Le Grand, 345m high, 1.75 miles NE.

Mount Merivale rises to a height of 197m, 6.5 miles E of Wylie Head, and is conspicuous from seaward.

Low Rock, 8m high, is located in the N part of Esperance Bay, about 1.25 miles SSW of Wylie Head. Lion Island, 52m high, is located 1.5 miles offshore, 3 miles SE of Wylie Head. Other rocks, 1 to 6m high, lie between Lion Island and the shore.

Woody Island (33° 58'S., 122° 01'E.), 127m high, is the largest island in the SE part of Esperance Bay. Time Rock, Thistle Rock, and Murray Rock are among the named rocks located SE of Woody Island. The positions of these and of adjacent unnamed islets and dangers may best be seen on the chart.

The two channels in the W approach to Esperance Bay are known as West Channel and Causeway Channel.

6.24 West Channel (33° 57'S., 121° 42'E.) lies between Butty Head on the N and West Group, which consists of three principal islands and a number of islets, rocks, and dangers, lying from 8 miles SSW to 6.5 miles SSE of this headland. The channel leads in an E direction for about 15 miles and is joined by Causeway Channel in the entrance of Esperance Bay. General depths of 37m and over are found in the fairway of West Channel.

Figure of Eight Island (34° 02'S., 121° 36'E.), at the SW end of West Group, has a height of 112m; it is rocky and covered, in places, with coarse grass and small scrub. A rocky islet, 30m high, lies off its S extremity.

A light is situated on the summit of Figure of Eight Island and is exhibited from a lantern on a concrete base; a white hut stands nearby.

Caution.—A 6.5m shoal lies 0.75 mile SW of the light; a 2.2m patch, with a below-water rock close NE of it, lies about 1 mile SE of the light.

6.25 Capps Island (33° 59'N., 121° 41'E.), 3.75 miles NE of Figure of Eight Island, is the N danger of West Group. Fury Rock, awash, on which the sea breaks heavily, lies 1.25 miles SE of Capps Island and is the E danger of this group. There are a number of rocks, islands, and submerged patches between Figure of Eight Island and Fury Rock, which may best be seen on the chart.

Vessels should not attempt to pass through West Group.

Observatory Island (33° 56'S., 121° 48'E.), on the N side of West Channel, is very rocky with stunted vegetation on its rugged, 78m high, summit. Foul ground extends 0.5 mile SW from the island, and a rock, on which the sea occasionally breaks, lies 0.1 mile off its E point. A 2.2m shoal lies in the narrow channel between Observatory Island and the coast.

Gig Rocks, 5m high, lie 1 mile W of Observatory Island; foul ground extends 0.25 mile WSW of them.

Sunday Patch, 1.25 miles E of Observatory Island, is a rocky patch with a least known depth of 8.6m. The patch breaks in heavy weather.

Charley Island, located about 3.25 miles E of Observatory Island, is rocky and sparsely covered with vegetation. It rises to a fairly well-defined summit, 106m high. Two rocks are located on a ledge that extends about 0.4 mile SE from the island. The outermost of the two rocks is 9m high.

Cull Island (33° 55'S., 121° 54'E.) lies 0.75 mile E of Charley Island. There are some stunted trees on the flat summit, which is 94m high. The island can be approached with safety to a distance of 0.25 mile on its E and S sides.

A light is situated on the summit of Cull Island and is exhibited from a white hut, surmounted by a lantern.

There are rocks and islets N of Observatory Island and the islands E, previously described, which do not affect the safety of vessels in West Channel; these rocks and islets may be seen on the chart.

6.26 Causeway Channel (34° 00'S., 121° 50'E.), which is deep and free from dangers, lies between West Group, Sunk Rocks, and Douglass Patch on the N, and The Causeway on the S.

Sunk Rocks, two rocks with depths of 5.5m, lie 4.5 miles SSW of Observatory Island. They are steep-to and will break heavily, at intervals, with moderate S winds and swells.

Douglass Patch, with a least depth of 12.8m, lies 3 miles SSE of Observatory Island; the patch breaks in heavy weather. A 22m bank lies 1 mile W of the patch.

The Causeway, which forms the S side of Causeway Channel, consists of rocks, islands, and sunken reefs extending from Giant Rocks to Long Island, which lies about 16 miles to the NE.

Giant Rocks (34° 11'S., 121° 40'E.) are two rocks lying in a position 8.5 miles SSE of Figure of Eight Islands. The W rock has a height of 13m and the E rock has a height of 9m. These rocks should be given a wide berth when a vessel is approaching Causeway Channel from the S.

A reef, on which the sea breaks heavily, lies 3.75 miles NE of the E Giant Rocks, and another reef lies 1.75 miles farther ENE.

Smith Rock, 6m high, and Hendy Isle, 16m high, are located about 12 and 13 miles, respectively, NE of Giant Rocks and are surrounded by foul ground. A sunken reef lies 0.4 mile NW of

Smith Rock and a rock, 6m high, with foul ground extending 0.2 mile SW from it, is located 0.85 mile NE of Smith Rock.

Long Island, 103m high, lies 3.25 miles E of Hendy Island. Long Island and the other reefs and islands of The Causeway, not previously described, are of no danger to vessels in transit of Causeway Channel.

Coates Reef (33° 59'S., 121° 58'E.), nearly awash and with the sea nearly always breaking on it, lies on the E side of Causeway Channel, and is the SW danger of a group of islands, rocks, and reefs that are located in the entrance of Esperance Bay. Coates Reef lies 4.5 miles SSE of Cull Island.

Magistrate Rocks, the largest being 14m high, form a conspicuous group rising from a small bank with depths of less than 37m, and are located 3 miles E of Cull Island. The SW rocks are awash, and the sea always breaks heavily on them.

Limpet Rock, 24m high, is located in Esperance Bay 3.75 miles N of Cull Island. There is deep water within 0.1 mile of the rock.

Caution.—A spoil ground lies about 1 mile WSW of Limpet Rock.

Directions.—Vessels approaching Esperance Bay from the E are recommended to pass well clear S of **Salisbury Island** (34° 22'S., 123° 33'E.), and S of **Termination Island** (34° 29'S., 122° 00'E.); this will lead S of the Archipelago of the Recherche. When the vessel has reached a position slightly W of the meridian of Figure of Eight Island, course should then be set N toward that island, then as directed on the illustration for Causeway Channel. These directions will insure passing W of Giant Rocks.

Vessels approaching from the S should pass S of Termination Island, then as directed above.

Esperance (33° 52'S., 121° 54'E.)

World Port Index No. 54450

6.27 Esperance, an artificial harbor situated on the NW side of Esperance Bay close N of Dempster Head, is protected by a breakwater on the SE and by land on the W side.

Esperance Port Authority Home Page

<http://www.esperanceport.com.au>

Tides—Cur rents.—The port has a tidal range of 0.7 to 1m.

Depths—Limitations.—An area maintained to a depth of 12.8m lies NW of the breakwater and is approached through a channel of similar depth which extends about 0.2 mile ENE. Inner Harbor Berth No. 1 and Inner Harbor Berth No. 2, which are 244m and 213m in length, respectively, and having a depth of 12.5m alongside, lie on the SW side of the maintained area.

Vessels up to 64,600 dwt, with a maximum length of 250m, can be accommodated. The normal maximum draft allowed is 11.5m, but greater drafts may be permitted at the discretion of the harbormaster.

A tanker jetty exists 1.5 miles N of Dempster Head. A light is exhibited from its head.

Aspect—Landmarks.—A breakwater, 4m high, extends NNE, then ENE, from the NE side of **Dempster Head**



Esperance

(33° 53'S., 121° 54'E.). Lights are shown from a white round tower at the angle of the breakwater and also at the breakwater head about 0.1 mile ENE of the angle. A conspicuous tower, 150m in elevation, stands 0.4 mile NW of Demster Head.

The channel leading to the berths is marked by a lighted range.

Pilotage.—Pilotage is compulsory. The pilot boarding ground is about 1.5 miles NE of Cull Island. Ships should signal their estimated time of arrival 48 hours in advance, confirming or amending the ETA 24 hours and 2 hours prior to arrival through Perth. The pilot boat, which is equipped with VHF, should be contacted 1 hour before arrival. Vessels berth during daylight hours only, but may berth at night or sail at any time subject to the harbormaster's discretion.

Anchorage.—The recommended anchorage is 1.5 miles NE or ENE of the head of the breakwater, in depths of 14.5 to 27.5m; a heavy swell can be experienced in this anchorage. Anchorage may also be found ESE of the breakwater head, in depths of 7 to 9m, sand and weed; the anchorage is safe with good holding ground, but it is uncomfortable.

Directions.—Vessels approaching Esperance via West Channel should pass 1 mile N of Capps Island, steering 080° to pass 0.5 mile S of the rocks off Charley Island. Causeway Channel is then joined S of Cull Island.

Vessels approaching Esperance via Causeway Channel should steer a midchannel course through Causeway Channel, observing that Limpet Rock open E of the E extremity of Cull Island leads SE of Sunk Rocks and Douglas Patch. Cull Island should be rounded at a distance of about 1 mile.

Archipelago of the Recherche

6.28 The Archipelago of the Recherche consists of a great number of islands and reefs and extends from Figure of Eight Island (34° 02'S., 121° 36'E.), the W island of West Group, 7

miles SW of Butty Head, to the N rock of Eastern Group, 123 miles E; it extends up to 40 miles offshore in places.

Vessels, unless proceeding to Esperance Bay, should avoid the archipelago at all times, as a haze is frequently found among the islands, in the neighborhood of the small detached reefs in the SW part of the archipelago, and up to 20 miles from any of the islands.

The islands and dangers of the archipelago are not discussed in detail; only those which lie near a proposed track are described. Vessels without local knowledge should not traverse the area as much of it is inadequately surveyed. Passage should not be attempted at night.

The archipelago is a nature reserve and landing on the islands is restricted.

A local magnetic anomaly has been observed among the islands of the archipelago. In the vicinity of Termination Island, the variation observed when W of the island was 5° greater than that observed when E of it.

Termination Island (34° 28'S., 122° 00'E.), 114m high, lies 27 miles S of Long Island and is the S island of the archipelago. It is a solid mass of rock of a very light color, with scarcely any vegetation on it; it is not easily seen from a distance. When viewed from E or W, the summit appears well defined.

Caution.—A depth of 13m lies 7.5 miles W of Termination Island. A bank, with a depth of 18.3m on it, was reported to lie 19 miles S of Termination Island.

6.29 Waterwitch Rocks (34° 20'S., 121° 41'E.) are two submerged rocks, with depths of from 1.2 to 2.4m, that lie close together 12.5 miles NW of Termination Island; the sea breaks over them only occasionally in moderate weather. A shoal, with a depth of 6.5m, lies about 2 miles W of Waterwitch Rocks.

Middle Rock (34° 18'S., 121° 50'E.), a black, smooth-topped rock, 9m high, with dangers lying off it, lies 8.5 miles E of Waterwitch Rock. A submerged reef, on which the sea occasionally breaks, lies about 3.75 miles NNE of Middle Rock. An 8.7m shoal lies about 3.75 miles W of the same rock.

Little Islet, 0.5 mile N of Termination Island, is rocky and 42m high. Brown Reef, about 3 miles NE of Termination Island consists of two islets, each 1m high, around which the sea always breaks.

Twin Rocks (34° 22'S., 122° 13'E.) are two small red rocks located close together about 13 miles ENE of Termination Islet; the N rock, 28m high, is the higher of the two. The rocks lie on a steep-to reef which extends one mile in all directions. Reefs, which break, lie 9 miles WNW and NW of Twin Rocks.

Caution.—Navigation should not be attempted between Termination Island and The Causeway, or N of a line joining that island and Salisbury Island (see paragraph 6.37), 77 miles E, as there are numerous submerged dangers which only break in heavy weather; other uncharted dangers may exist S of that line.

Cape Le Grand to Mississippi Point

6.30 Inner dangers.—The coast between Cape Le Grand and Mississippi Point, 8.25 miles E, has a bold, rugged appearance and is backed by bare rocky slopes that rise to well-defined hills.

Mississippi Hill rises from the coast, 1.25 miles WNW of Mississippi Point, to an elevation of 180m; its summit, on which there is a cairn, is bare and rocky.

The coast between Cape Le Grand and Mississippi Point is indented by five bays which have sandy beaches at their heads.

Lucky Bay, the E bay of the five above-mentioned bays, is located close W of Mississippi Hill.

Anchorage can be obtained during N and E winds in the bay, close under the islands that form the SE side of the bay, in depths of 22m, coarse sand. With E winds a S swell sets into the bay; with W winds violent squalls sweep down from the hills on the NW side of the bay.

Cliff Island (34° 01'S., 122° 05'E.), 43m high, lies about 1 mile W of Cape Le Grand; shoal ground extends 0.2 mile off its E end, and a submerged rock lies close off its W end.

Ram Island, 133m high, lies 1.25 miles SE of Cape Le Grand; the island is of rocky formation, with little vegetation. A reef, on which the sea occasionally breaks, lies 0.3 mile S of the island.

New Island, 54m high, lies close offshore, 0.4 mile N of Ram Island.

Mississippi Reefs lie close off Mississippi Point; the inner reef is awash, but the outer, 0.3 mile SE of the point, is submerged and the sea only breaks on it at intervals.

Black Rocks (34° 03'S., 122° 13'E.) are two steep-to rocks, 4m high, located 3 miles ESE of Ram Island.

Rob Island and Roy Island, 4.5 miles E of Ram Island, are 56 and 43m high, respectively, and are bare and rocky. A submerged reef, on which stands a 2m high rock, lies 0.5 mile SE of Roy Island. A 2.7m patch lies 0.4 mile WNW of Rob Island.

6.31 Outer dangers.—Cloud Island, 63m high, is located 2 miles SW of Cape Le Grand. A submerged rock, on which the sea usually breaks, lies about 0.3 mile ENE of the island.

Pasco Island, 68m high, lies 1 mile SSE of Cloud Island. Rocks, both above and below-water, extend up to 0.2 mile from its E and SW sides.

Hope Island (34° 05'S., 122° 10'E.), 2.25 miles SSE of Ram Island, is bare and rocky, with a well-defined summit, 45m high; an islet lies close to its S extremity.

French Reef, awash and on which the sea always breaks, lies 5 miles E of Hope Island.

Escape Rock, a dangerous patch with a depth of 3.6m, lies about 0.75 mile S of French Reef. The patch does not break and it can be made out only in good light.

Mondrain Island (34° 08'S., 122° 15'E.), 6.75 miles offshore SSW of Mississippi Point, is the second largest island in the Archipelago of the Recherche. The island, 226m high, is prominent from all directions.

Mississippi Point to Hammer Head

6.32 Inner dangers.—The coast between Mississippi Point and Cheyne Point, 12 miles ENE, in general, consists of sandy beaches backed by sandhills 9 to 30m high. For a distance of 2 miles N from Mississippi Point, the coast is rocky, and a rocky promontory, 51m high, projects from the coast 5 miles NE of the point.

Cairn Hill, 128m high, 3 miles WNW of the rocky promontory, is prominent; Yungarup Hill, 7.5 miles ENE of the same promontory, rises to an elevation of 165m.

Tory Islands (34° 01'S., 122° 19'E.) are a group of four rocky islets, with very little vegetation on them, located 1.5 miles SE of Mississippi Point. The N islet, 73m high, is the largest of the group and has deep water close up to its N side, but a submerged reef lies 0.25 mile off the SW islet.

Outtrim Reef, awash and on which the sea always breaks, lies 1.5 miles SE of Tory Islands.

Mississippi Bay is a small bight which lies about 1 mile N of Mississippi Point. A chain of six islands lies across the entrance of the bay. These islets afford inadequate shelter during E winds, and the bay affords shelter from W winds only.

Other islands and rocks, which may best be seen on the chart, lie in the bight between Mississippi Point and Cheyne Point.

Hammer Head (33° 58'S., 122° 35'E.), 76m high, is a rocky headland of rounded appearance and is sparsely covered with vegetation. It is steep-to and may be approached to a distance of 0.2 mile.

Cheyne Bay indents the coast between Hammer Head and Cheyne Point, about 3 miles WNW. An islet, 9m high, lies 1 mile NNW of Hammer Head and several smaller islets lie as far as 0.25 mile off the E and W shores of the bay.

Passage Island, 4 miles WSW of Cheyne Point, is 26m high, bare, and rocky. Submerged rocks lie close off its NE and SW ends, otherwise it is steep-to.

Scatterbreak Reef, upon which the sea always breaks, lies 1 mile SE of Passage Island.

York Islands (34° 00'S., 122° 35'E.) are a group of five islands lying 2.5 miles S of Hammer Head. The easternmost, and most prominent, has a dark patch of vegetation on its E

face. It is steep-to on all sides, and from the SE appears as a conspicuous peak, 110m high. The other islands of the group are low, dark, and barren.

A reef, with two pinnacles and nearly awash, lies 0.75 mile SSE of the largest island of the York Islands. The reef is steep-to and always breaks.

6.33 Outer dangers.—Stokes Bank (3° 05'S., 122° 19'E.), with a least depth of 13m over a rocky bottom, lies in a position 4 miles NE of Mondrain Island, which has been previously described in [paragraph 6.31](#).

Finger Island, 45m high, is the N of a group of three islands. It is rocky and round in appearance, with sparse vegetation near its summit.

Draper Island (34° 12'S., 122° 30'E.), 80m high, bare, and rocky, lies 14.5 miles SSW of Hammer Head. Detached reefs and submerged rocks extend up to 0.5 mile from the island in places; a rock, 7m high, lies on the reef NE of the island, and a rock, 5m high, lies on the reef NW of it; a submerged rock, on which the sea breaks only occasionally, lies 0.5 mile SW of the island.

Spray Reef, nearly awash and steep-to, lies about 1.75 miles ENE of Draper Island. The sea always breaks over the reef.

Hammer Head to Cape Arid

6.34 Inner dangers.—The coast between Hammer Head and Cape Arid, 29 miles E, consists of a succession of sandy beaches and rocky points backed by sandhills. Behind the sandhills the country is open, undulating, and of moderate elevation. The most prominent summit is Howick Hill, a 265m high granite hill located 9 miles inland behind the W part of this stretch of coast.

Alexander Point, 32m high, is located about 13 miles ENE of Hammer Head. Alexander Hill, long and flat-topped, lies 2 miles NE of Alexander Point. The hillsides are covered with thick scrub and the top is bare; the actual summit, 117m high, is marked by a granite cairn.

Tagon Point is the extremity of a rocky promontory, covered with scrub, 7 miles E of Alexander Point

Hawes Hill, 140m high, stands 3.75 miles NNW of Tagon Point.

Cape Arid (34° 01'S., 123° 10'E.), lies 11 miles SE of Tagon Point; the cape and the coast in its vicinity is bare and rocky, and rises in a succession of granite ridges to the double summit of Mount Arid, 362m high, 3.5 miles NE of the cape.

Mount Belches, 1.25 miles N of Hammer Head, is a dome-shaped rocky hill with smooth, steep slopes, rising to an elevation of 168m. A 3m high cairn stands on the summit and is prominent from all directions.

Duke of Orleans Bay (33° 55'S., 122° 36'E.), an indentation in the coast NE of Mount Belches, affords good anchorage sheltered from all but E winds, which, especially in summer, raise a short and very choppy sea; the holding ground, sand and weed, is good.

The entrance to Duke of Orleans Bay is encumbered with Nares Island, Table Island, and John Island and by Dodd Rock and Bay Rock.

Nares Island (33° 56'S., 122° 36'E.) is 26m high, rugged, and covered with small bushes and some grass; it lies close to the S point of Duke of Orleans Bay. A white-topped rock, 1.5m high, lies close off its NW point.

Anchorage for vessels of not more than 4.9m draft can be taken with the white-topped rock close off the NW point of Nares Island bearing about 125°, distant 0.2 mile.

Belches Reefs, 4.5 miles ENE of Hammer Head, are two submerged reefs lying 0.3 mile apart. The W reef has depths of 2.7 to 3.7m and seldom breaks; the E reef has lesser depths and usually breaks.

Alexander Bay lies NW of Alexander Point. The W end of the bay affords moderate shelter from W winds to vessels with local knowledge and draft not exceeding 3m.

Tagon Bay, close NE of Tagon Point, is sometimes used as an anchorage by coasters, but it is not recommended, as the bottom is uneven and the bay is exposed to the S swell.

Arid Bay is an indentation in the coast immediately N of Cape Arid. Rocks, above-water, and foul ground extend 0.75 mile N of Cape Arid; a 5.5m patch lies 1.25 miles NW of the cape.

Barrier Islands (33° 59'S., 123° 09'E.) are two islands located 1.5 miles N and 2 miles NNW, respectively, of Cape Arid; there is foul ground and several above-water rocks between the two islands. The islands are 18 and 39m high, with the S island being the higher.

Barrier Anchorage, inside these islands, may afford shelter from NE gales for a small vessel, with local knowledge, in depths of 9.1m.

Caution is necessary if taking shelter in Barrier Anchorage, as the only approach is between the foul ground that extends N from Cape Arid and S Barrier Island; the summit of Bearing Rock, bearing 278° astern, leads between them and N of the 5.5m patch mentioned above.

Bearing Rock, 5m high, lies 1.5 miles WSW of the N Barrier Island; foul ground extends 0.2 mile S and W from it.

There are numerous rocks, reefs, and islands that lie in the bight between Hammer Head and Cape Arid; their positions may best be seen on the chart.

6.35 Outer dangers.—Marts Islands (3° 00'S., 122° 39'E.) are a group of islands and rocks located 4 miles SE of Hammer Head. The E part of the group consists of four islets lying close together; the largest has slight vegetation on it. The W part of the group consists of one islet with several rocks, 2 to 4m high, N of it. The islet in the W part of the group is the highest and most prominent of the entire group; its smooth, bare granite sides slope down symmetrically from its 132m summit.

Sulphur Reefs (34° 07'S., 122° 41'E.) are a group of detached reefs, about 2 miles long, lying in a N-S direction. The N reef, which seldom breaks, lies about 6 miles SSE of Marts Island; the S reef of the group is awash and always breaks. Vessels should not pass between or within 0.5 mile of these reefs.

Breakers are charted about 1 mile NNW and NW of the N reef of Sulphur Reefs.

Foam Rocks (34° 08'S., 122° 51'E.), located 8 miles ESE of Sulphur Reefs, consists of four rocks in a cluster; the highest is 8m high, but the sea always washes over them in great masses of foam. A sunken reef, on which the sea breaks at intervals,

lies about 0.5 mile ENE of Foam Rocks. A charted obstruction lies 3.5 miles S of Foam Rocks.

Matthew Rock (34° 12'S., 123° 00'E.), with a depth of 7.3m, lies 8 miles SE of Foam Rocks; it seldom breaks, except with a heavy S swell.

Recherche Rock (34° 18'S., 122° 55'E.), about 7 miles SW of Matthew Rock, is steep-to, with a depth of 3.7m; the sea breaks on it at intervals.

Cape Arid to Cape Pasley

6.36 Inner dangers.—From Cape Arid, the coast trends ENE for about 8 miles and then ESE to Cape Pasley. An extensive bay, with a sandy shore, which has not been surveyed, is formed within.

Mount Pasley (33° 55'S., 123° 33'E.), 2 miles NNE of the S extremity of the cape, is 143m high, with a cairn on its summit, and is a prominent feature on this part of the coast.

Arid Island, about 0.75 mile SSE of Cape Arid, is 5m high and bare. A rock, with a depth of 1.8m, lies N of Arid Island. Darling Shoal, a dangerous patch with depths of 5.5m, lies 0.75 mile SSE of Arid Island; the sea breaks on it at times.

An islet, 8m high, lies close offshore 3.5 miles ENE of Cape Arid, and a shoal, which always breaks, lies 6 miles ENE of the same cape.

6.37 Outer dangers.—**Middle Island** (3° 06'S., 123° 12'E.), 5 miles SSE of Cape Arid, is separated from the mainland by Arid Strait. The island is densely wooded, except on the slopes near the coast. Flinders Peak, the highest point on the island, is the summit of a conspicuous dome-shaped hill, which rises to a height of 174m at the NW end of the island; the hill is wooded on its E side. Dangerous rocks, on which the sea always breaks heavily, extend nearly 0.5 mile offshore from the S point of the island. North East Point, the NE extremity of the island, is low, with the land sloping up from the point which should not be approached within a distance of 0.2 mile.

Goose Island (34° 05'S., 123° 11'E.), lying 0.5 mile off the N coast of Middle Island, is rocky, with sandy patches covered with short scrub; the summit, 47m high, is composed of bare granite rocks.

Goose Island Bay, on the N side of Middle Island between North East Point and Goose Island, 1.5 miles W, is sheltered from the swell and from all except N winds. A rock, near the center of Goose Island Bay, is 0.3 high and covered with marine growth. The rock consists of two smooth granite boulders lying close together. The sea breaking over the rock indicates its position.

Blind Rocks, between 0.1 to 0.25 mile N of Sailor Rock, consists of three dangerous granite boulders, with depths of

from 1.2 to 1.8m, and with depths of 9.1 to 11m close around them. Caution is necessary when navigating in the vicinity of these rocks, as they are small and not easily seen.

A dangerous rock lies in the S part of Goose Island Bay, 0.25 mile S of Sailor Rock, close within the 5m curve.

During W winds, anchorage may be taken off the E side of Goose Island, in depths of about 12.8m, with Sailor Rock in line with the NE point of Goose Island, bearing 302°, and Flinders Peak bearing about 253°, or further S if necessary.

Miles Island (34° 04'S., 123° 14'E.), 39m high, is separated from North East Point on Middle Island by a deep, clear channel more than 0.5 mile wide. Miles Island is the S island of a group which extends about 4.25 miles NE and includes George Island, Owen Island, Gulch Island, and Stanley Island.

Foul ground skirts all except the E side of Miles Island. A 5.5m patch, over which the sea breaks heavily, lies 0.25 mile E of the SE point of the island.

Grace Shoal (34° 03'S., 124° 12'E.), 0.75 mile W of the N end of the chain of islets that extend NNW from Miles Island, has a depth of 3.4m, and breaks heavily at intervals.

Wickham Island (Stanley Island) (34° 01'S., 123° 17'E.), the NE of the group, is 12m high, and has some vegetation on it. Foul ground fronts the S side of the island and extends 0.5 mile off the SW extremity. A detached sunken reef, on which the sea usually breaks, lies about 0.75 mile SSW of the island.

The other islands of the group that extends NE from Miles Island to Wickham Island are best seen on the chart.

Douglas Island (34° 10'S., 123° 09'E.), 3 miles SSW of Middle Island, is barren and rocky. The island consists of two hills connected by a low narrow neck; the E summit, 82m high, is slightly higher than the W, which is 79m high, precipitous on its S side, and is conspicuous. There are submerged rocks, on which the sea breaks with any swell, off the E and W sides of the island.

Note.—Matthew Rock, lying SW of Douglas Island, is described in paragraph 6.35.

Dome Island (34° 10'S., 123° 21'E.), 7.25 miles SE of Middle Island, is a small dome-shaped island, 90m high. Sunken rocks extend about 0.15 mile from its E and SW sides. A reef, which has a rock 1.2m high, lies about 1 mile NE of the island.

Penguin Rock (34° 13'S., 123° 15'E.), a dangerous rock with a least depth of 7.3m, and on which the sea seldom breaks, lies 6 miles SE of Douglas Island.

Salisbury Island (34° 22'S., 123° 33'E.), the SE and largest island of the Archipelago of the Recherche, lies 28 miles SE of Cape Arid. The island, 119m high, is rocky and covered with matted, stunted scrub. The summit, in the middle of the island, is somewhat flat, but with a slight saddle; the hill on the S end of the island, 101m high, is better defined.



Salisbury Island bearing 314° distant 6 miles

Submerged rocks extend 0.25 mile SW of the S point of Salisbury Island; two rocky ledges, awash, with the S one having on it a rock 5m high, are located 0.75 mile off its NW side.

Salisbury Island is an excellent mark for making the archipelago, but vessels should not approach within 0.75 mile of its S end.

Caution.—Heavy breakers have been reported about 6 miles SSE of Salisbury Island.

Chester Reef (34° 27'S., 123° 37'E.), an extensive shoal with a least depth of 10m, lies about 5.5 miles SE of the S end of Salisbury Island.

Pollock Reef (34° 34'S., 123° 34'E.), 11 miles S of Salisbury Island, has depths of less than 2m, and is steep-to. With S or W swells, the sea breaks heavily on it, but during fresh E winds, it is difficult to see, as the break on the reef is very similar to the breaking waves in the vicinity.

6.38 Archipelago of the Recherche to Esperance—Directions from E.—The directions described here are only to be used by vessels with local knowledge.

Vessels making Salisbury Island in the afternoon should not attempt to pass through the archipelago, but should proceed to the anchorage in Goose Island Bay, or to Duke of Orleans Bay and anchor for the night.

From a position 2 miles W of the S extremity of Salisbury Island, the course leads WNW, passing about 2 miles SSW of Penguin Rock and about 2.5 miles SSW of Douglas Island, bearing 090°. Then steer 270°, passing 2 miles S of Foam Rocks and Sulphur Reefs, and 1.25 miles N of Draper Island. From this position, steer NW to pass 1.5 miles NE of Finger Island, to a position about midway between Stokes Bank and Outtrim Reef; then steer W, passing 1 mile N of French Reef and between Black Rocks and Hope Island.

Pass 1 mile S of Ram Island and S of Cliff Island, steering between Gunton Island and Sandy Hook Island; then as directed for Causeway Channel, as described in [paragraph 6.26](#).

Vessels desiring to anchor in Goose Island Bay, from a position 2 miles W of the S end of Salisbury Island may steer NNW, passing 1.5 miles SW of Dome Island and midway between North East Point, Middle Island, and Miles Island, then into Goose Island Bay.

From Goose Island Bay to Esperance Bay, round Goose Island at not less than 0.5 mile N; from this position steer SW for a position 4.5 miles W of Douglas Island, then proceed W as described above.

If intending to anchor in Duke of Orleans Bay, follow the track from Salisbury Island described above until the S Sulphur Reef, described as always breaking, bears 016°, then steer 343° for Mount Belches, keeping it ahead on that bearing. After passing between York Islands and Marts Islands, steer for the anchorage in Duke of Orleans Bay.

Cape Pasley to Cape Adieu

6.39 From Cape Pasley to Point Malcolm, the coast is generally low and fronted by sand dunes. The sand dunes are about 15m high and covered with scrub, but on a point 6 miles

NE of Cape Pasley, a prominent sandhill rises to a height of 25m.

The coast between **Point Malcolm** (33° 48'S., 123° 42'E.) and Point Dempster, 11 miles NNE, is low and sandy. Submerged dangers lie up to 5.5 miles off the coast between Cape Pasley and Dempster Point.

Mount Ragged, 585m high, is located 31 miles NNW of Cape Pasley. Of the craggy group of hills in this area, Mount Ragged is the most remarkable.

Caution.—That part of the Archipelago of the Recherche which lies NE of Salisbury Island, Dome Island, and Middle Island has not been surveyed.

Round Island (34° 05'S., 123° 53'E.), located 19 miles SE of Cape Pasley, is a prominent lump of rock; two small rocks, lying 0.5 mile N and WNW, respectively, of the island are also prominent.

Eastern Group (33° 47'S., 124° 05'E.), located between 15 and 26 miles NNE of Round Island, consists of eight rocky islets, most of them low and barren. However, the S islet, which is the largest, rises at its N end to an elevation of 152m; near its S end there is a sugarloaf hill, 140m high, with the land between being low with little vegetation.

Two small rocky islets lie close off the SW end of the islet described above, and give protection to an indentation on its SW coast; this indentation is reported to afford anchorage, in depths of about 18.3m, sand, weed, and rock. When approaching the anchorage, steer for the sugarloaf hill on Daw Islet, bearing about 140°, until a small sandy beach at the head of the bay bears 145°, then steer for it on that bearing, anchoring as soon as a depth of 18.3m has been reached.

As this part of the archipelago has not been surveyed, vessels should approach these islets only with extreme caution.

6.40 Israelite Bay (33° 37'S., 123° 48'E.), an indentation in the coast immediately N of Point Dempster, affords good anchorage, in depths of 5.5m, inside the reef that extends NE from the point. There are a number of shoals in the bay, but they can be seen from aloft when conditions are favorable.

Vessels approaching the bay from the S should give Point Dempster a berth of 2 miles, and proceed into the bay with the head of the small pier situated at the head of the bay, in range bearing 260°, with a slight rise in the distant background. There is good anchorage about 0.5 mile from the pier, in depths of 7m.

Comorant Rock lies about 7 miles E of Dempster Point. Six Mile Island lies about 1.25 miles S of Comorant Rock. Dangerous rocks lie about 1.5 miles ESE and 1 mile WSW of Comorant Rock.

The coast NNE of Israelite Bay is low and sandy, without irregularity. It is backed by a steep limestone terrace from 76 to 82m high. The limestone terrace, which originates some distance inland in the vicinity of Israelite Bay and follows the general trend of the coast line, closes the coast gradually and terminates in a bluff, 87m high, 55 miles NE of Dempster Point.

From this bluff to **Point Culver** (32° 54'S., 124° 42'E.), about 10 miles E and then ENE for about 70 miles, the coast is of cliffy formation. These cliffs are about 76m high, without any remarkable feature by which one part can be distinguished

from another; the upper part of them is brown and the lower portion is almost white. Each small projection on the coast has the appearance of a steep cape to a vessel coming along the coast, but, before coming abreast, it is lost in the general uniformity of the coast. The bluff, located 10 miles W of Point Culver, and **Point Dover** (32° 21'S., 125° 31'E.), about 47 miles ENE of Point Culver, are exceptions to this uniformity, but it is necessary to be near the coast before they can be distinguished.

Small Rock (32° 45'S., 124° 58'E.), an above-water rock, is located near the coast, 16 miles NE of Point Culver.

No known dangers exist near this coast, and depths of from 37 to 51m are found at a distance of 4 to 5 miles off it.

6.41 Twilight Cove (32° 17'S., 126° 01'E.), 30 miles ENE of Point Dover, indents the coast slightly and affords good landing on a sandy beach. The cliffs commence to recede from the coast in the vicinity of this bight.

A steep limestone terrace, from 75 to 90m high, extends ENE from Twilight Cove and runs parallel with the coast, about 15 miles inland to Eucla, where it gradually approaches the coast again and forms the actual line of the coast E of Eucla.

A tower, 76m high and with an elevation of 166m, stands 11 miles NW of Twilight Cove; a similar tower, with an elevation of 155m, stands 9 miles N of Eyre.

Foul ground extends about 1 mile from the coast, from 1.5 to 6.5 miles ENE of Twilight Cove.

Eyre (32° 16'S., 126° 17'E.), a settlement 13 miles E of Twilight Cove, may be easily identified by Eyre sand patch, a white sand patch near the coast, and a peaked sandhill, covered with dense scrub, that rises about 4.5 miles inland. Vessels have found adequate shelter at an anchorage off Eyre, in a position SW of the peaked sand hill, during heavy weather from all quarters.

The coast between **Low Sandy Point** (32° 18'S., 126° 16'E.), 6 miles ESE of Eyre, and **Low Point** (32° 01'S., 128° 15'E.), about 100 miles E, has a level ridge on which there are some trees and shrubs. The depths off this part of the coast are fairly regular.

The coast between Low Point and **Eucla Roads** (31° 45'S., 129° 00'E.), 35 miles ENE, is backed by low sand hills; it should not be approached within a distance of 5 miles.

The coast about 1.5 miles W of Eucla is formed by a low sand bank, not more than 5m high and covered with bushes. From here the land rises gradually, and the coast, a short distance E of Eucla, consists of sandhills rising to a height of 15m. The limestone terrace, which closes the coast in this vicinity, passes about 2.5 miles N of Eucla; it is covered with mallee scrub, and has the appearance of a dark brown mass of bushes as far as the eye can see.

Delisser Sands (31° 42'S., 128° 57'E.) are a bare patch of sands that extend for more than 1 mile, in a NE direction, from a position about 2 miles E of Eucla. Several of these dunes rise to conspicuous peaks, the highest of which is 35m high, located near the center of the area.

Murdeyerrah Sands (31° 39'S., 129° 07'E.) are the farthest E of the group of named sand patches that lie in the vicinity of Eucla. They are located on the slopes of scrub-covered hills, which rise to a height of 101m, 17 miles E of Eucla. The highest of these dunes is about 37m.

6.42 Eucla (31° 43'S., 128° 46'E.) is a township situated 0.5 mile inland, about 5 miles W of the boundary between the states of Western Australia and South Australia.

Eucla Roads, the only known anchorage between that off Eyre and Fowler's Bay, a distance of more than 300 miles, affords shelter at all times to vessels, with local knowledge, of not more than 4m draft.

The anchorage is protected by a rocky shoal that lies S and SW of it; the outer edge of this shoal lies about 1.5 miles offshore, and is generally marked by breakers.

A rocky shoal, about 2 miles long, with depths of from 4.6 to 5.5m, and on which the sea breaks with a heavy swell, lies parallel with the coast S of Delisser Sands.

Wilson Bluff, a nearly perpendicular cliff 90m high located E of Eucla Sands, makes the best landfall when approaching Eucla Roads, but the approach should be made with great caution. A tower, with an elevation of 78m, stands 25 miles WSW of Eucla; similar towers, each with an elevation of 173m, stand 4 miles NNW and 20 miles NE of Eucla.

The coast for a distance of about 10 miles E of Murdeyerrah Sands continues to be steep and dark; a perpendicular cliff with a white substratum, having no remarkable feature, extends about another 94 miles E to the head of the bight.

A number of towers, between 61 and 76m high, stand at distances from the coast, varying from 1.5 to 8 miles, between Eucla and the head of The Great Australian Bight.

6.43 Twin Rocks (31° 30'S., 131° 08'E.) are situated close inshore off the junction of the cliff and sand, at the head of the bight. Conspicuous bare sand hills extend more than 1 mile inland from the head of the bight, rising to an elevation of 57m. There is a heavy surf here, usually, which breaks about 0.5 mile offshore, in depths of 5.5m, even in good weather. These conditions render landing impracticable, or very hazardous.

The coast between Twin Rocks and Cape Adieu, 60 miles SE, consists of a series of low, dark, rocky points and sandy beaches, fronted by rocks and foul ground, on which the sea breaks at a general distance of about 0.5 mile offshore.

Black Hill (31° 33'S., 131° 33'E.) is located near the coast 13 miles ESE of Twin Rocks. A peak, 93m high, on the inland ridge, rises 4.5 miles ENE of Black Hill.

Shoulder Hill (31° 40'S., 131° 40'E.), 13 miles SE of the peak and on the same ridge, is 99m high.

Three round-topped hills rise to elevations of about 75m, near the coast, about 40 miles ESE of Twin Rocks.

A submerged reef, on which the sea breaks in a heavy swell, lies 2 miles offshore, SSW of the three round-topped hills described above.

There is a bare sand hill, 73m high, about 9 miles SE of the round-topped hills. A dark, wooded hill, 172m high stands 7 miles NNE of Cape Adieu; it is the highest land on this part of the coast.

Cape Adieu (32° 01'S., 132° 09'E.) is a dark, cliffy point, 37m high. The cape is bordered by submerged rocks; two detached sunken rocks, which break with a heavy swell, lie about 3 miles W and 2 miles SSW, respectively, of the cape. Other offshore dangers in the vicinity of the cape are described in [paragraph 7.2](#).